

Sarah B. Kapnick

CONTACT INFORMATION	Geophysical Fluid Dynamics Laboratory / NOAA Forrestal Campus, Princeton University P.O. Box 308 Princeton, NJ 08542 <i>Office:</i> (609) 452-6548 <i>E-mail:</i> skapnick@princeton.edu <i>Website:</i> http://www.princeton.edu/aos/people/research_staff/kapnick/	
PROFESSIONAL EXPERIENCE	Postdoctoral Research Associate, Atmospheric and Oceanic Sciences Program, Princeton University and GFDL/NOAA, October 2011-Present Research Assistant, Atmospheric and Oceanic Sciences, UCLA, June 2011-September 2011	
RESEARCH INTERESTS	Hydroclimate, climate variability, global and regional climate change, snowpack, water supply	
EDUCATION	University of California, Los Angeles , Los Angeles, California Ph.D., Atmospheric and Oceanic Sciences, Dissertation Advisor: Alex Hall, June 2011 Leaders in Sustainability Certificate, Institute of Environment and Sustainability, May 2011 M.S., Atmospheric Sciences, December 2007 Princeton University , Princeton, New Jersey A.B., Mathematics, Senior Thesis Advisor: S. George Philander, June 2004 Certificate in Finance, Bendheim Center for Finance, June 2004	
HONORS AND AWARDS	<i>ThinkSwiss Travel Grant</i> , ThinkSwiss.org, Switzerland, 2012 <i>Bjerknes Award</i> , Department of Atmospheric and Oceanic Sciences, UCLA, 2011 <i>Mautner Graduate Student Award</i> , Physical and Life Sciences Division, UCLA, 2011 <i>Brian Lance Bosart Memorial Award</i> , Department of Atmospheric and Oceanic Sciences, UCLA, 2010 <i>UCLA Dissertation Fellowship</i> , UCLA, 2010-2011 <i>Switzer Environmental Fellowship Award</i> , Robert & Patricia Switzer Foundation, 2010 <i>UCLA Charles E. and Sue K. Young Graduate Student Award</i> , College of Letters and Sciences, UCLA, 2010 <i>NASA Earth and Space Science Fellowship</i> , NASA, 2007-2010 <i>Edwin W. Pauley Fellowship</i> , UCLA, 2006-2007 <i>Roy and Dorothy John Fellowship</i> , UCLA, 2006-2007	
TEACHING EXPERIENCE	Princeton University , Princeton, NJ Guest Lecturer for GEO 202, "Ocean, Atmosphere, and Climate" Undergraduate Assistant for GEO 220, "Weather and Climate" Grader/Undergraduate Assistant for MAT 201, "Multivariable Calculus"	Spring 2012 Spring 2004 Fall 2003
	University of California, Los Angeles , Los Angeles, California	

Guest Lecturer for AOS 201B, “Geophysical Fluid Dynamics II”
Guest Lecturer for AOS 201A, “Geophysical Fluid Dynamics I”
Teaching Assistant for AOS 1, “Climate Change: Puzzles and Policies”

Spring 2009 and 2008
Winter 2009
Spring 2008

PUBLICATIONS

Kapnick, S., T. Delworth 2013: Controls of Global Snow Under a Changed Climate. *Journal of Climate*. doi:10.1175/JCLI-D-12-00528.1, in press.

Pavelsky, T., Sobolowski, S., **Kapnick, S.**, and J. Barnes, 2012: Changes in orographic precipitation patterns caused by a shift from snow to rain. *Geophysical Research Letters*, **39**, L18706, doi:10.1029/2012GL052741.

Kapnick, S. and A. Hall, 2012: Causes of recent changes in western North American snowpack. *Climate Dynamics*, **38** (9), 1885-1899, doi:10.1007/s00382-011-1089-y.

Waliser, D., Kim, J., Xue, Y., Chao, Y., Eldering, A., Fovell, R., Hall, A., Li, Q., Liou, K., McWilliams, J., **Kapnick, S.**, Vasic, R., De Sale, R., and Y. Yu, 2012: Simulating the Sierra Nevada snowpack: The impact of snow albedo and multi-layer snow physics. *Climatic Change*, **109** (S1), 95-117.

Boé, J., Hall, A., Colas, F., McWilliams, J., Qu, X., Kurian, J., and **Kapnick, S.**, 2011: What shapes mesoscale wind anomalies in coastal upwelling zones? *Climate Dynamics*, **36** (11), 2037-2049, doi:10.1007/s00382-011-1058-5.

Pavelsky, T., **Kapnick, S.**, and A. Hall, 2011: Accumulation and melt dynamics of snowpack from a multi-resolution regional climate model in the central Sierra Nevada, California. *JGR-Atmospheres*, **116**, doi:10.1029/2010JD015479.

Kapnick, S. and A. Hall, 2010: Observed climate-snowpack relationships in California and their implications for the future. *Journal of Climate*, **23** (13), 3446-3456.

Kapnick, S. and A. Hall, 2009: Observed changes in the Sierra Nevada snowpack: potential causes and concerns. California Environmental Protection Agency and California Energy Commission Report CEC-500-2009-016-F.

Kim, J., Fovell, R., Hall, A., Li, Q., Liou, K., McWilliams, J., Xue, Y., Qu, X., **Kapnick, S.**, Waliser, D., Eldering, A., Chao, Y., and R. Friedl, 2009: A projection of the cold season hydroclimate in California in mid-21st century under the SRES-A1B emission scenario. California Environmental Protection Agency and California Energy Commission Report CEC-500-2009-029-F.

Waliser, D., Kim, J., Xue, Y., Chao, Y., Eldering, A., Fovell, R., Hall, A., Li, Q., Liou, K., McWilliams, J., **Kapnick, S.**, Vasic, R., De Sale, F., and Y. Yu, 2009: Simulating the Sierra Nevada snowpack: The impact of snow albedo and multi-layer snow physics. California Environmental Protection Agency and California Energy Commission Report CEC-500-2009-030-F.

ACADEMIC TALKS

2013 Department of Geology and Geophysics, Yale University, New Haven, Connecticut. (Talk)
2012 AGU Fall Meeting, San Francisco, California. (Poster)
2012 DISCCRS VII Symposium, Colorado Springs, Colorado. (Poster, Talk)
2012 NCCR Climate Summer School, Monte Verità, Ticino, Switzerland. (Poster)
2012 Workshop for Climate Change and Water Cycle, and Communicating Uncertainty, Princeton Institute for International and Regional Studies, Princeton University, Princeton, New Jersey. (Talk)
2011 Geophysical Fluid Dynamics Laboratory, Princeton, New Jersey. (Talk)

	<p>2011 Department of Atmospheric and Oceanic Sciences, UCLA, Los Angeles, California. (Talk)</p> <p>2011 AMS Annual Meeting, Seattle, Washington. (Poster)</p> <p>2010 Cryosphere Workshop, Stevens Institute of Technology, Hoboken, New Jersey. (Talk)</p> <p>2010 NASA Goddard Institute for Space Studies, New York, New York. (Talk)</p> <p>2009 Pacific Northwest National Laboratory, Richland, Washington. (Talk)</p> <p>2008 AGU Fall Meeting, San Francisco, California. (Poster)</p> <p>2008 Climate, Ecosystems, and Resources in Eastern California Conference, Bishop, California. (Talk)</p> <p>2008 Fifth Annual California Climate Change Research Conference, Sacramento, California. (Poster)</p>
PROFESSIONAL SERVICES	<ul style="list-style-type: none"> • American Geophysics Union and American Meteorological Society member since 2008 • Reviewer for: Journal of Climate, Climatic Change, The Cryosphere, Environmental Health Perspectives, Journal of Geophysical Research - Atmospheres, Proceedings of the National Academy of Sciences, Water Resources Research
ACTIVITIES AND OUTREACH	<p>Isaac Newton Middle School for Math and Science, New York, NY</p> <p><i>Career Day Speaker</i> March 2010; May 2012</p> <p>Annual speaker for middle school students about working as a scientist, researching snowpack, and attending college and graduate school in general.</p> <p>Chicago Symphony Orchestra, Chicago, IL</p> <p><i>Scientific Consultant</i> January - May 2010</p> <p>Provided expertise and direction on understanding the physics and mathematics of waves in the ocean and sound waves for the “Beyond the Score” program for Debussys La Mer performance. The program was performed in Chicago in May 2010 and has been traveling to other cities, including Seattle in November 2010. http://beyondthescore.org/</p>
SELECTED MEDIA COVERAGE	<p>Climate contradiction: Less snow, more blizzards, <i>Associated Press</i>, February 19, 2013.</p> <p>Out of Equilibrium? The World’s Changing Ice Cover, <i>Environmental Health Perspectives</i>, January 1, 2011.</p>
PREVIOUS EMPLOYMENT	<p>Goldman Sachs & Co., New York, NY</p> <p><i>Investment Banking Analyst</i> 2004 - 2006, Summer 2003</p> <p>Financial Institutions Group analyst covering insurance, reinsurance, and exchanges.</p>